



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/855,011 | 05/14/2001 | Martin J. Ratcliffe | 00-323 1496.00121 | 1191 |

7590

04/04/2006

Intellectual Property Law Department
LSI Logic Corporation
M/S D-106
1551 McCarthy Boulevard
Milpitas, CA 95035

EXAMINER

ROSARIO, DENNIS

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

09/855,011

Applicant(s)

RATCLIFFE, MARTIN J.

Examiner

Dennis Rosario

Art Unit

2621

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 16 March 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

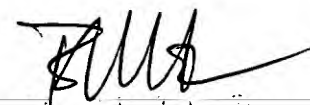
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 1-22.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☒ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☒ Other: See attached Response to After Final Amendedment.



DETAILED ACTION

Response to After Final Amendment

1. The after final amendment was received on March 16, 2006. Claims 1-22 are pending.

Response to Arguments

2. Applicant's arguments on page 11, filed 3/16/2006 have been fully considered but they are not persuasive and states:

“Since the state machine 385 is shown as a separate box external to the DMA device 384 one of ordinary skill in the art would not consider the DMA device 384 as **comprising** the state machine 385.”

However, the examiner respectfully disagrees since in fig. 5 of Yasuki et al. (US Patent 5,712,689 A) the DMA device 384 does comprise the state machine 385 because both the DMA device 384 and state machine 385 share a common connection or bus shown as a vertical line that is not labeled in fig. 5 between numerals 382,385,383 and 384.

3. Applicant's arguments on page 12 filed 3/16/2006 have been fully considered but they are not persuasive and states:

"Yasuki does not teach or suggest that the state machine 385 necessarily has (i) an idle after chroma state configured to move to a chroma state in response to multiple chroma picture requests and (ii) an idle after luma state configured to move to a luma state in response to multiple luma picture requests, as presently claimed."

However, the examiner respectfully disagrees since Yasuki does teach or suggest that the state machine 385 necessarily has

(i) an idle after chroma state (left portion of "state ('1') in col. 8, line 7 of fig. 6E corresponds to "a color-difference signal processing system" in col. 4, lines 50,51 that is in a "disable state" in col. 8, lines 6,7) configured to move to a chroma state (or fall from a "1" state to a "0" state) in response to multiple chroma picture requests (Fig. 6C, label: "REQ 1" is interpreted as multiple picture requests since REQ 1 represents "the request for data transfer" in col. 7, line 63 and fig. 6C is a "timing chart" in col. 2, line 66; thus, multiple REQ 1 requests are made during a certain time interval as shown in the depression of fig. 6C) and

(ii) an idle after luma state configured to move to a luma state in response to multiple luma picture requests (This limitation is the same as paragraph (i). The only difference being a luma which corresponds to "a luminance signal processing system" in col. 4, lines 50,51 which uses the same timing chart, above.) .

4. Applicant's definition on page 12, filed 3/16/2006 have been fully considered and states:

"In particular, one of ordinary skill in the art would understand that a finite state machine is defined by describing a set of possible states and the transitions between the states...see... Exhibit A"

In light of Exhibit A which states:

"finite state machine (FSM) a mathematical model that is defined in discrete time and has a finite number of possible states it can reside in. At each instance, an input, x , is accepted and an output, y , and a transition from the current state, S_c , to a new state, S_n , are generated based on separate functions of the input and the current state."

The examiner is able to finding corresponding relationships of Exhibit A, page 3 and in fig. 27. For example using Exhibit A, page 3:

finite state machine (FSM) (fig. 11,num 220) a mathematical model (fig. 27) that is defined in discrete time and has a finite number of possible states (Fig. 27 labels: Idle after chroma state, Luma state, btmp after Luma state, SPU/VBI state, Idle after Luma state, Chroma state, btmp after chroma state and SPU/VBI state) it can reside in. At each instance, an input (corresponding to any input arrow of fig. 27), x , is accepted and an output (corresponding to any output arrow from each state), y , and a transition (represented as arrows of fig. 27) from the current state (Any one of the above mentioned Idle after chroma state, Luma state, btmp after Luma state, SPU/VBI state, Idle after Luma state, Chroma state, btmp after chroma state and SPU/VBI state), S_c , to a new state (Any one of the above mentioned Idle after chroma, Luma, btmp after Luma, SPU/VBI, Idle after Luma, Chroma, btmp after chroma and SPU/VBI), S_n , are generated based on separate functions of the input and the current state."

If the term “idle after **chroma** state” or “idle after luma state” is to be given patentable weight, the origin of the “chroma” or “luma” is not clear so that the “idle after chroma state” is after a “chroma” state in claim 1 or that an idle state occurs after the chroma state or luma state based on the following questions:

- a) Does a “chroma request” or “luma request” signal as shown in fig. 24 enables the state machine to activate the chroma or luma state first of fig. 27 so that the claimed “idle after chroma state” or “idle after luma state” is next so that the idle after chroma state or “idle after luma state” is really after the chroma state?
- b) Or does the chroma or luma request signal enables the state machine to activate the idle after chroma state or idle after luma state first then subsequently activates the Chroma or Luma state next? However this question appears to be a contradiction since the idle after chroma state or idle after luma state is first relative to the chroma or luma state.
- c) Or is the claimed “idle after chroma state” or “idle after luma state” just one name of many states of a state diagram and should be interpreted as just an idle state with an arbitrary name regardless of the idle state being before or after other states?
- d) Does the claimed “idle after chroma state” really mean “idle state after a chroma state” or “idle after chroma state state”?
- e) At what point does the state diagram of fig. 27 start so that idle after chroma state come into being?

So in light of the questions, the idle after chroma state of fig. 27 could also be named following all the states of the state diagram of fig. 27 with a long name: **Idle after** (emphasis added) Luma btmp after luma SPU/VBI Idle after Luma **Chroma** (emphasis added) btmp after Chroma SPU/VBI **state** (emphasis added) or for short **Idle after Chroma state** (emphasis added).

The examiner will assume the answers to questions c) to be yes for claim interpretation of claims 1, 21 and 22.

5. Applicant's arguments on page 12, filed 3/16/2006 have been fully considered but they are not persuasive and states:

“Yasuki does not disclose a state diagram for the state machine 385.”

The examiner respectfully disagrees, while Yasuki does not teach the word “state diagram” which is not claimed, Yasuki does teach “timing charts” in col. 2, line 65 which corresponds to the definition of a finite state machine. According to the applicant “a finite state machine is defined be describing a set of possible states and the transitions between the states” on page 12, lines 8,9. Yasuki does shows a set of possible states either a “1” or “0” as shown in figures 6A-6L and transitions between states such as an enable state corresponding to “0” of fig. 6D between two adjacent disable states corresponding to “1” of fig. 6D.

6. Applicant's arguments on page 13, filed 3/16/2006 have been fully considered but they are not persuasive and states:

"Furthermore, the Office Action fails to provide any objective evidence or a convincing line of reasoning why a person of ordinary skill in the field of the invention would consider Yasuki to teach or suggest a finite state machine necessarily configured to allow multiple luma picture requests and multiple chroma picture requests to follow in sequence as presently claimed."

However, the examiner respectfully disagrees since Yasuki does teach or suggest a finite state machine necessarily configured to allow multiple luma picture requests and multiple chroma picture requests to follow in sequence with respect to time as mentioned in paragraph 4. Thus, the sequence is REQ 1, REQ 1, REQ1... etc. at the "0" state of fig. 6C.

In another interpretation fig. 6C, label: "REQ 1" is the first luma or chroma request in time, then fig. 6A, label: "BUS-REQ" is the second luma or chroma request in time. Thus, the sequence is at least one REQ 1 at the "0" state of fig. 6C then BUS-REQ, BUS-BUS REQ...etc. at the "0" state of fig. 6A.

7. Applicant's arguments, see page 14, lines 5-8, filed 3/16/2006, have been fully considered but they are not persuasive and states:

"Furthermore, the Office Action states that Yasuki is silent regarding switching or alternating between requests..."

However, upon further review, fig. 6G shows a request signal, "REQ" at the "0" state that is switched repeatedly from a "1" state.

8. Applicant's arguments filed 3/16/2006 on pages 14 and 15 have been fully considered but they are not persuasive and states:

"...the Office Action does not present any objective evidence or convincing line of reasoning why a person of ordinary skill in the art would consider the interrupt signal IREQ1 of Yasuki or the bus request signals REQ and BUS-REQ of Yasuki as necessarily being the same as the presently claimed multiple chroma picture requests and multiple luma picture requests."

However, the examiner respectfully disagrees since the interrupt signal IREQ1 of Yasuki (as shown in fig. 6C) or the bus request signals REQ (fig. 6G) and BUS-REQ (as shown in fig. 6A) of Yasuki is the same as the presently claimed multiple chroma picture requests and multiple luma picture requests because the IREQ1 signal 1 represents "the request for data transfer" in col. 7, line 63 corresponding to either the color difference in the "color-difference signal processing system" in col. 4, lines 50,51 or the luminance in the "luminance signal processing system" in col. 4, lines 50,51. And the bus request signal BUS-REQ responds to IREQ1 so that either the color difference or luminance signals can be transferred along the requested bus as mentioned in col. 7, lines 61-65. And REQ represents "a bus request signal (REQ) for requesting the bus use..." in col. 7, lines 53,54 so that the bus can be used to transfer either a color difference or luminance.

Art Unit: 2621

9. Applicant's arguments filed 3/16/2006 on pages 16 and 17 have been fully considered but they are not persuasive and states:

"The reference to data moving from one **STAGE** (num. 452 of Yasuki) of a circuit to another **STAGE** (num. 460 of Yasuki) of a circuit does not address whether the state machine 385 has (a) an idle after chroma **STATE** that is further configured to move to any of (i) said luma **STATE**, (ii) A BTMP after luma **STATE**, (iii) an SPU/VBI **STATE**, (iv) said idle after luma **STATE**, and (v) said chroma **STATE** or (b) an idle after luma **STATE** is further configured to move to any of (i) said chroma **STATE**, (ii) a BTMP after chroma **STATE**, (iii) an SPU/VBI **STATE**, (iv) said luma **STATE** and (v) said idle after chroma **STATE**, as presently claimed."

However, the examiner respectfully disagree since the reference to data moving from one STAGE (fig. 12, num. 452 of Yasuki) of a circuit to another STAGE (fig. 12, num. 460 of Yasuki) of a circuit does address whether the state machine 385 has:

(a) an idle after chroma **STATE** (corresponding to the portion of "0" "state[s]" in col. 8, line 7 starting from the left of the timing chart of fig. 6D which represents that the horizontal processor is waiting or is in a "disable state" in col. 8, lines 6,7) that is further configured to move (or rise as shown in fig. 6D using a timing chart) to:

(i) said chroma **STATE** (Using fig. 6D, any portion , state "0", which corresponds to the color difference signal or the claimed chroma of the horizontal processing circuit between the first state "1" and the second state state"1" and the plurality of concurrent processing of the chroma or color difference signal in figures 6E-6L).

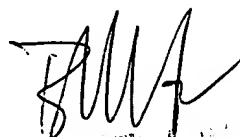
Allowable Subject Matter

10. The following claim is drafted by the examiner and considered to distinguish patentably over the art of record in this application, claim 1 presented to applicant for consideration:

All the limitation of claim 1 are the same except for amending line 15 from "to follow in sequence" to "to follow in a luma picture request and chroma picture request sequence or a chroma picture request and luma picture request sequence".

Since the art of record, Yasuki et al., teaches a luma picture requests train sequence with respect to time chart or a chroma picture requests train sequence with respect to a time chart and not a combination train sequence of a luma picture request and chroma picture requests or visa versa.

Support for such an amendment was similarly discussed in the final office action of 1/12/2006. However such an amendment will require a new search and consideration.


ANAND K. GUPTA
SUPERGRANT PATENT EXAMINER
TECHNOLOGY CENTER 2600